INTERNATIONAL TECHNOLOGY CORPORATION

# ANALYTICAL SERVICES

## CERTIFICATE OF ANALYSIS

IT Corporation
5600 South Quebec Street
Suite 280-D
Englewood, CO 80111
Attn: Jeff Horn

Date: November 12, 1991

Job Number 41038

This is the Certificate of Analysis for the following samples:

| | |
|---|---|
| Client Project ID: | EG & G Rocky Flats; Tucson, Arizona |
| Date Received: | September 26, 1991 |
| Work Order: | X1-09-193 |
| Number of Samples: | 1 |
| Sample Type: | Air |

I. Introduction

One air sample arrived at ITAS Cincinnati on September 26, 1991. The sample was collected on September 25, 1991 and was labeled as follows:

Can # Offgas Bench 1

II. Analytical Results/Methodology

The analytical results for this report are presented by analytical test. The data will include sample identification information, the analytical results, and the appropriate detection limits.

The analysis requested was Volatile Organics by Gas Chromatography/Mass Spectrometry; EPA Method TO-14.

Reviewed and Approved by:

Lauri Rotella
Project Manager
109193

III. Quality Control

Immediately following the analytical data for the samples can be found the QA/QC information that pertains to these samples. The purpose of this information is to demonstrate that the data enclosed is scientifically valid and defensible. This QA/QC data is used to assess the laboratory's performance during the analysis of the samples it accompanies. All quantitations were performed within the calibrated range of the analytical instrument.

IV. Comments

The sample canister arrived at 331 mm Hg absolute pressure and was pressurized to 42 psi resulting in an 8.8 to 1 dilution. In addition a serial dilution was performed for screeing purposes since high levels were expected. Aliquots were selected for analysis so that the target analytes were within the calibration range. We could not reach the minimum detection limits because the high concentration of target compounds precluded analysis at the maximum aliquot size and because of the initial dilution of the sample canister.

This report is being re-issued to replace the one sent October 22, 1991.

Client: IT Rocky Flat
Work Order: X1-09-193
10919303

IT ANALYTICAL SERVICES
CINCINNATI, OH

| | Analyte Concentration, PPB V/V | |
|---|---|---|
| Client Sample ID | Canister # Offgas Bench 1 | |
| Lab Sample No | 01 | |
| Date analyzed: | 10/8/91 | Detection Limit |
| Dilution Factor 36 | | |
| Dichlorodifluoromethane | ND | 8 |
| Chloromethane | ND | 18 |
| Vinyl Chloride | ND | 11 |
| Bromomethane | ND | 11 |
| Chloroethane | ND | 18 |
| 1,1-Dichloroethene | 630 (1) | 210 (2) |
| Freon 113 * | 480 (1) | 140 (2) |
| Methylene Chloride | 25 | 8 |
| 1,1-Dichloroethane | ND | 11 |
| c-1,2-Dichloroethene | ND | 11 |
| Chloroform | ND | 11 |
| 1,1,1-Trichloroethane | 3100 (1) | 210 (2) |
| Carbon Tetrachloride | 300 (1) | 140 (2) |
| Benzene | 130 | 8 |
| 1,2-Dichloroethane | ND | 8 |
| Trichloroethene | 360 (1) | 140 (2) |
| 1,2-Dichloropropane | ND | 11 |
| c-1,3-Dichloropropene | ND | 16 |
| Toluene | 21 | 8 |
| t-1,3-Dichloropropene | ND | 26 |
| 1,1,2-Trichloroethane | ND | 11 |
| Tetrachloroethene | 45 | 8 |
| 1,2-Dibromoethane | ND | 8 |
| Chlorobenzene | ND | 8 |
| Ethylbenzene | ND | 8 |
| m +/or p Xylene | ND | 8 |
| o- Xylene | ND | 8 |
| Styrene | ND | 8 |
| 1,1,2,2-Tetrachloroethane | ND | 8 |
| 1,3-Dichlorobenzene | ND | 4 |
| 1,4-Dichlorobenzene | ND | 4 |
| Benzyl Chloride | ND | 8 |
| 1,2-Dichlorobenzene | ND | 4 |
| Freon 114 ** | ND | 8 |
| Trichlorofluoromethane | 81 | 8 |
| 1,3,5-Trimethylbenzene | ND | 8 |
| 1,2,4-Trimethylbenzene | ND | 8 |
| 1,2,4-Trichlorobenzene | ND | 8 |
| Hexachlorobutadiene | ND | 8 |

* Freon 113 = 1,1,2-Trichloro-1,2,2-trifluoroethane
** Freon 114 = 1,2-Dichloro-1,1,2,2-tetrafluoroethane
(1) From a 1:670 dilution (2) Calculated for 1:670 dilution

Client: IT Rocky Flat
Work Order: X1-09-193
10919304

IT ANALYTICAL SERVICES
CINCINNATI, OH

Analyte Concentration, PPB V/V

| Client Sample ID | Method Blank ABLKH1 | |
|---|---|---|
| Date analyzed: | 10/8/91 | Detection |
| Dilution Factor 1 | | Limit |
| Dichlorodifluoromethane | ND | 0.2 |
| Chloromethane | ND | 0.5 |
| Vinyl Chloride | ND | 0.3 |
| Bromomethane | ND | 0.3 |
| Chloroethane | ND | 0.5 |
| 1,1-Dichloroethene | ND | 0.3 |
| Freon 113 * | ND | 0.2 |
| Methylene Chloride | ND | 0.2 |
| 1,1-Dichloroethane | ND | 0.3 |
| c-1,2-Dichloroethene | ND | 0.3 |
| Chloroform | ND | 0.3 |
| 1,1,1-Trichloroethane | ND | 0.3 |
| Carbon Tetrachloride | ND | 0.2 |
| Benzene | ND | 0.2 |
| 1,2-Dichloroethane | ND | 0.2 |
| Trichloroethene | ND | 0.2 |
| 1,2-Dichloropropane | ND | 0.3 |
| c-1,3-Dichloropropene | ND | 0.4 |
| Toluene | ND | 0.2 |
| t-1,3-Dichloropropene | ND | 0.7 |
| 1,1,2-Trichloroethane | ND | 0.3 |
| Tetrachloroethene | ND | 0.2 |
| 1,2-Dibromoethane | ND | 0.2 |
| Chlorobenzene | ND | 0.2 |
| Ethylbenzene | ND | 0.2 |
| m +/or p Xylene | ND | 0.2 |
| o- Xylene | ND | 0.2 |
| Styrene | ND | 0.2 |
| 1,1,2,2-Tetrachloroethane | ND | 0.2 |
| 1,3-Dichlorobenzene | ND | 0.1 |
| 1,4-Dichlorobenzene | ND | 0.1 |
| Benzyl Chloride | ND | 0.2 |
| 1,2-Dichlorobenzene | ND | 0.1 |
| Freon 114 ** | ND | 0.2 |
| Trichlorofluoromethane | ND | 0.2 |
| 1,3,5-Trimethylbenzene | ND | 0.2 |
| 1,2,4-Trimethylbenzene | ND | 0.2 |
| 1,2,4-Trichlorobenzene | ND | 0.2 |
| Hexachlorobutadiene | ND | 0.2 |

* Freon 113 = 1,1,2-Trichloro-1,2,2-trifluoroethane
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IT ANALYTICAL SERVICES
CINCINNATI, OH

Quality Assurance Data

Volatile
Surrogate Recovery, Percent

| Client Sample ID | Lab No. | d4-1,2-Dichloro-ethane | d8-Toluene | p-Bromo-fluoro-benzene |
|---|---|---|---|---|
| Can # Offgas Bench 1 | 01 | 94 | 98 | 104 |
| | 01 DL (1:670) | 98 | 99 | 103 |
| Method Blank | ABLKH1 | 99 | 101 | 96 |